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ABSTRACT

Major issues involved in developing a partnership between community colleges and business and industry for occupational upgrading and retraining are discussed in this paper. After introductory comments highlight the importance of economic renewal for America in the coming decades and the role of retraining and upgrading of the work force in that process, the rise of education and training efforts by business, industry, and sectors other than collegiate institutions is considered. The current educational role of corporations and the fact that 72% of the 64 million participants in postsecondary education are learning through non-school organizations are stressed. The following section outlines factors influencing collaboration between colleges and business and industry, including the increased skill requirements that have resulted from technological change. Next, the potential role of the community college in responding to business/industry needs is emphasized in the areas of: (1) remedial and pre-entry level training; (2) entry-level training; (3) critical skill training; (4) skill upgrading and retraining; and (5) displaced worker training. Then, ways of strengthening the relationship between community colleges and business/industry are presented, focusing on the accessibility, cost effectiveness, and quality of community college programs and the benefits of improved cooperation. (HB)

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A CREATIVE PARTNERSHIP FOR THE COMMUNITY COLLEGE AND BUSINESS AND INDUSTRY IN OCCUPATIONAL UPGRADING AND RETRAINING

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A CREATIVE PARTNERSHIP FOR

THE COMMUNITY COLLEGE AND BUSINESS AND INDUSTRY

IN OCCUPATIONAL UPGRADING AND RETRAINING

INTRODUCTION

Economic renewal must be the fundamental goal of American domestic policy for the balance of this century. In the debate over how to generate economic growth and strengthen the competitiveness of U.S. industry, one critical means of restoring productivity growth often is overlooked: improving the quality of the performance of the American work force.[1]

Economic revitalization depends in part on the productive capacity of the work force developed through training in entry level skills as well as the retraining and upgrading of those adults already in the work force. The nation's colleges and universities have for many years provided quality instruction for entry level workers but have only recently begun to play a more significant role in the continued training and development of adult workers.[2] The quality of the education and training they provide directly affects the quality of the work force available for employment.[3]

EDUCATION AND TRAINING IN BUSINESS AND INDUSTRY

During the decades of the 1950's and 1960's, post-secondary education was dominated by collegiate institutions. However, the societal trend toward disaggregation of existing markets has profoundly affected the delivery of post-secondary educational services and has created a spectrum of other educational providers such as those reported by Hodgkinson:

1. The military in training for adult literacy, task analysis, and relearning skills;
2. The professional association in offering highly individualized instruction to its members;
3. The industrial education system in using job assessment, programmed learning, and motivational techniques;
4. The museum in providing sequencing of instructional events, multimedia simulations in gaming, and enhanced learner involvement;
5. The proprietary institution in conducting first-rate marketing, apprenticeship training, linkages with local business and industry, and excellent job placement and vocational counseling.[4]

To the above listing we can add state and local governments, churches, labor unions and libraries without exhausting the possibilities.

Non-collegiate education and training programs represent a continually expanding phenomena. Peterson has indicated that of the approximately 64 million participants in post-secondary education, roughly 18 million (28%) are enrolled in schools and colleges. The balance (46 million or 72%) are learning through

non-school organizations.[5] American business and industry provides one of the largest educational alternatives to colleges and universities. Corporations are designing and offering courses that earn credits toward undergraduate and graduate degrees. Companies offering college credits include International Business Machines (IBM), American Telephone and Telegraph (AT&T), Xerox, Lockheed Missiles and Space, Holiday Inn, Trans World Airlines (TWA), Dana Corporation, Bank of America and John Hancock Mutual Life Insurance. Several companies such as Wang, General Motors, IBM, Xerox, General Electric and American Telephone and Telegraph are degree granting institutions in their own right.[6]

The American Council on Education conducts extensive evaluations of courses for corporations seeking college credit for their programs. In 1980 more than 2,000 courses offered at 138 corporate organizations were recognized for academic credit by the Program on Non-Collegiate Sponsored Education, American Council Education.[7] Some state education groups conduct similar assessments. The commitment of the corporate sector to human resource development is reflected in its budget allocation for this enterprise. It is estimated by The American Society for Training and Development that the corporate sector expends $30 billion annually on instruction.

In a study conducted by Lusterman of 7,600 companies employing 500 or more individuals, he found that these companies expended $2 billion for education and training. Eighty percent of this expenditure was for in-house instructional costs.

TABLE I PREVALENCE OF EDUCATION/TRAINING PROGRAMS BY COMPANY SIZE

Percent of Companies Reporting Program

Company Size	Tuition Aid After Hours	Other Outside Courses	Company Courses After Hours	Company Courses During Hours
	%	%	%	%
10,000 Employees or More	97	90	56	96
5,000 - 9,000	95	83	51	96
2,500 - 4,999	91	79	52	91
1,000- 2,499	94	77	45	86
500 - 999	82	66	28	71
All Companies	89	94	39	55

SOURCE: Seymour Lusterman, Education in Industry

According to Maeroff[9] and Luxenberg[10], American Telephone and Telegraph spends approximately $1.1 billion per year for instruction to prepare over one million employees.

The growth in size and complexity of the modern corporation has generated a variety of education/training needs such as:

1. To accomodate the change and growth in personnel;
2. To accommodate the changes in skills and knowledge required by a corporation and its employees;
3. To improve the skills and performance of employees in their present position[11].

For purposes of our discussion, we can differentiate between education and training in the following manner. Training programs typically focus on the acquisition of technical or manual skills through performance repetition. Peterfreund[12] has identified three phases of training:

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1. Initial training: orientation to company policies, methods, and equipment, on the job training;

2. Retraining: upgrading skills for changes in technology on present job;

3. Replacement training: acquisition of new skills for job changes resulting from turnover and promotion.

Education programs focus on the development of information, concepts and intellectual abilities. Branscomb and Gilmore have indicated the difficulty of making clear distinctions between corporate training and education. They write:

> At one end of the scale, which we may regard as more typical of "training" lies measurability, narrowness of subject matter, relevance to a particular time and place well defined range of use and efficiency of information transfer. At the other end of the scale, more characteristic of what we mean by "education" lies the exposure to contrasting assumptions and points of view, the involvement of personal and intellectual initiative, less constrained range of use even to uncertainty about its specific utility and the general impossibility of measuring on a quantitative scale the degree and quality of acquisition of insight.[13]

Development programs embody a combination of training and education. They focus on the strengthening of interpersonal skills, self-awareness, career development, attitude changes and character building.

Employee sponsored instruction can be divided into two categories: on-site training and off-the-job training. On-site training refers to orientation and specialized training in machine operations or work methods provided at the job site by peers or supervisors. Off-the-job training is achieved through

three basic modes: company courses, tuition assistance plans and courses offered by educational vendors outside the company[14].

In the past the focus of corporate training policies was on on-site training while external training was considered to be the domain of public and proprietary educational vendors. However, the technological environment of the 80's have altered these educational delivery patterns. Colleges and universities now offer courses on-site and several firms are now firmly established as external education vendors.

FACTORS INFLUENCING COLLABORATION BETWEEN COLLEGIATE INSTITUTIONS AND BUSINESS/INDUSTRY

The burring of lines of education/training responsibility is drivenby an additional set of factors. As the American economy increases in complexity, there is a corollary increase in the minimal skill requirements for workers. Secondly, college and university faculty are a primary source of new knowledge and techniques. To be competitive, corporations need to facilitate this knowledge transfer to remain on the cutting edge of the new technology. In addition, the knowledge and skill requirements for both information and manufacturing will be changing and will continue to change at a rapid pace during the next several years. Basic structural changes are underway in the American economy that is on the scale of importance as the shift at the turn of the century from an agricultural economy to an industrial economy[15]. The present shift

involves a transformation from a manufacturing to a non-manufacturing base; the increasing importance in the economy of investment and trade; a decline in productivity and the accelerating pace of change[16].

This economic and technological transformation has set in motion the following trends within business and industry:

1. There is a felt need to emphasize human resource development such as interpersonal relationships and collaborative decision-making to solve problems of productivity and worker satisfaction;

2. Employees are being viewed as resources and their overall development is being treated as a corporate investment;

3. Instructional programs are viewed as an integral aspect of overall corporate planning;

4. Instructional programs are designed to interface with the needs of departments and/or individuals within a corporation; and

5. There is increasing concern with the cost effectiveness of in-house instructional programs based on measurable outcomes in terms of productivity and work satisfaction.

In a similar vein, educational institutions are evidencing a willingness to address the needs of business and industry by:

1. Providing quality, cost effective programs tailored more precisely to the needs of business and industry;

2. Becoming more responsive, flexible and adaptable in course scheduling, admissions and registration procedures;

3. Using teaching strategies which are learning style adaptable and have easy transferability from the classroom to the job; and

4. Addressing more directly the career development needs of adult students.

The imperatives for improved collaborative relationships between business/industry and educational institutions are clear. Educating and training the workforce is the foundation for a vital, productive economy. Problems inherent in chronic unemployment and rapidly changing technology are too complex to be resolved by educational institutions or business/industrial organizations acting alone.

Wilson[17] has discussed several elements of successful work/education partnerships. In order to structure an effective and sustaining relationship, the parties to that compact must first adopt a posture of cooperation. The outcomes of the partnership should be clear as well as the benefits to be derived by both parties. In addition, there should be an ongoing assessment of the products of the relationship as well as an assessment of the relationship itself.

Successful alliances devolves to the benefit of both corporate and educational enterprises through an increased understanding of the mission, goals and relevant issues of both organizations. Alliances provide for more effective communication, they aid in the planning and implementation of programs and thus lead to greater productivity by the staffs of both companies and colleges. In the community colleges, program advising committees are ongoing examples of cooperative arrangements between education and business/industry. In responding to the needs of the new technology, other cooperative structures are emerging. At the Milwaukee Area Technical

College, a Business and Education Liaison Council has been formed. This council includes members from industries identified as emerging technologies, traditional manufacturing, service, government, public schools and MATC. At the Maricopa Community College District in Phoenix, Arizona, this need is being met by the High Technology Industries Advising Council[18].

THE COMMUNITY COLLEGE/BUSINESS AND INDUSTRY PARTNERSHIP

The potential universe of participants for collegiate administered programs is vast. Only a small fraction of existing firms have formal training programs for their employees. Lusterman's[19] dat indicated that the large companies employing 10,000 or more persons accounted for more than three-quarters of the total training expenses. Hodgkinson[20] has noted an unwillingness of some community colleges to form alliances with small young firms. Nevertheless, the nation's small businesses offer a unique opportunity for community colleges to develop training partnerships. Although their training budgets are small, they are the largest source of new employment.

According to Davis[21] from 1969 to 1976 total employment increased by 9.5 million and 99% of these new jobs were in firms other than the Fortune 1000. Approximately 75% of the new jobs created during this period were generated by firms with 20 or fewer employees. Eliason [22] states that during 1981 and 1982

the American Association of Community and Junior Colleges, National Small Business Training Network linked 186 two-year colleges to the district offices of the U.S. Small Business Administration to organize and deliver more than two million hours of high quality short term training in 47 states.

Community colleges can address the employment and training needs of business and industry by focusing its attention on the following issues:

1. Remedial and pre-entry level training needs;
2. Entry level training needs;
3. Critical skills needs;
4. Upgrading and retraining needs; and
5. Displaced worker training needs.

MEETING REMEDIAL AND PRE-ENTRY LEVEL TRAINING NEEDS

The standard of communications skills needed to be functionally literate--that is, employable and able to participate effectively in society--is rising rapidly. And yet, 20% of American adults are functionally illiterate--unable to read a job notice, fill out a job application or make change[23]. In describing entry level workers in its report, A Nation at Risk, the National Commission on Excellence in Education stated that this population is riven with problems of illiteracy, of poor performance and severe shortcomings in technical competence.

The level of academic skills that was satisfactory a decade ago is inadequate today. Potential workers must now be able to read at advanced levels, think critically, abstractly and symbolically, solve problems, synthesize and communicate effectively with co-workers while demonstrating the personal attributes of responsibility and independence. Within the framework of a contemporary industrial society, academic skills have become the most important vocational skills. According to McCabe and Skidmore[25], the increased requirement for academic skills for employability combined with the decline in those skills, leaves millions of Americans inadequately prepared, unable to gain employment and thus unable to sustain themselves as productive members of society.

Although the majority of those requiring remedial education are unemployed, a substantial segment of the basic skills client population are working but are at risk of being furloughed of displaced by advancing technology[26]. They are not knowledgeable about career options and how to gain access to training programs. Many of the workers in this group need to develop successful work attitudes and habits as well as job skills and many of their training needs cannnot be met through traditional college course offerings. The community college working with business and industry should:

1. Identify specific training needs;
2. Formulate a training program to meet these needs;
3. Where necessary conduct skill assessment counseling, remedial education and pre-entry level training;

4. Where possible these services should be delivered on company sites to provide greater access to those requiring them.

ENTRY LEVEL TRAINING NEEDS

Central to the community college's mission is skills training leading to the Associate of Applied Science Degree. The community college should continue to emphasize this aspect of its mission--job training at the technical and para-professional level. Each job training program must be continually assessed to ensure that exit competencies are properly aligned with the entering competencies of that particular job. Course content should be updated continuously to remain current in a technological environment where products and systems are often obsolescent before they enter the market. Advisory committees comprised of representatives from the community, businesses, industries and labor organizations are an appropriate evaluatory and linking device. Information from analyses of job placement and follow-up of graduates would aid in curriculum refinement and expansion.

CRITICAL SKILL NEEDS

Effective planning of education and training programs require current and accurate data about the supply and demand for workers and the changing nature of occupational requirements, particularly at the local level. There is an increasing misalignment between the needs of employers and the availability of technically skilled workers. In some

professions and skill areas, such as machine tool workers, electronics technicians, tool and die makers, test technicians, optial personnel and many types of engineering fields, the shortage of available workers is becoming a major structural barrier to meeting national defense and domestic production requirements[27].

As a manpower training institution, the community college today is faced with the difficult task of developing coherent strategies and priorities for academic program development. Manpower projections are always precarious, even in fairly well defined professional areas[28]; nevertheless, as part of its strategic planning posture, the community college must improve its mechanisms for the identification and projection of critical skillneeds.

The approach of the Milwaukee Area Technical College is instructive. In order to determine the employment needs of the metroplitan Milwaukee area, the college conducted an employment training and technological needs assessment in cooperation with a neighboring instituion, Waukesha County Technical Institute, the Milwaukee Public Schools, the City and County of Milwaukee, the Wiconsin Gas and Electric Companies, Wisconsin Bell, the Metroplitan Milwaukee Association of Commerce and the Milwaukee CountyLabor Council AFL-CIO.

This needs assessment had five primary goals:

1. To establish stronger linkages between the educational and business communities which will facilitate a comprehensive human resource planning effort;

2. To assess patterns of occupational demand for key technical job classifications within several industry groups;

3. To inventory the crucial technical skills anticipated by business and industry within a selected group of existing and emerging job classifications;

4. To provide data necessary to select appropriate and cost-effective educational policy options to meet the needs of metropolitan employers; and

5. To disseminate data relative to labor market demand to targeted groups to assist them in making appropriate training and retraining choices.

The needs assessment survey was mailed to over 1,600 employers in the following groups: durable goods manufacturing; non-durable goods manufacturing; banking and finance; services and wholesale-retail trade.[29] Within the community college this type of information is of vital importance for priority setting and resource allocation.

UPGRADING AND RETRAINING NEEDS

The volume of scientific and technical information doubles every ten years. Given this rapid rate of technological change, virtually all of the nation's workers, most of whom are now employed, will ned to be retrained or have their skills updated. Education and training programs are needed because of changing industrial products, to introduce new manufacturing methods or to standardize current ones, installation of sophisticated equipment or when individuals are changing jobs. Corporate motives for training tend to be short term, functional and mission oriented. The community college, therefore, must

provide customized service for business and industry. An individualized teaching strategy would be quite useful in this regard. Cable television, multiple distribution services, instructional TV, fixed services, teletext and a variety of emerging electronics communication technologies will afford opportunities for expanded educational services to business and industry. The community college should also plan strategies that reduce the time lag between a company's initial training request and the college's response.

DISPLACED WORKER NEEDS

For the foreseeable future, domestic and international economic competition, robotization, the movement of facilities among and between the regions of the United States and the shift to a service-based economy will result in the annual displacement of thousands of workers.[30] Large numbers of these workers displaced during the decline of basic manufacturing industries will not be reemployed in those industries even when they recover their market share. For displaced workers, the community college can provide job counseling, retraining for existing jobs in the college's service area or relocation to other geographical areas where their skills can be more productively deployed.

STRENGTHENING THE RELATIONSHIP

An effective partnership between the community college and business and industry is critical in addressing the skill needs of the American workforce. The relationship can be strengthened by focussing on the following factors: (1) access; (2) cost effectiveness; (3) quality of programs; and (4) cooperation.

Community colleges have traditionally offered services to business and industry. However, the realities of the new technology and the changing demands of the job market have elicited a commitment from these institutions to reach out in a more aggressive fashion to meet the educational and training needs of corporate enterprises. Such an approach is framed by the belief that community colleges represent the central institution in the development of the American workforce and with its new emphasis on economic development, will play a critical role in the nation's reindustrialization, its technological enhancement and the preservation and maintenance of our national economic structure.

Access - In order to improve accessibility to its educational services, the community college must sharpen its institutional focus and commitment. This commitment must first be recognized in a clearly stated policy and in the institution's strategic goals. In addition, the governing board and the chief executive must continually give visible evidence of this commitment. Each department or instructional division should have an operational objective directed to serving

business and industry. Models exist for a variety ofinstitutional structures that can execute the economic development function. Within the community college, an individual or office should be vested with this responsibility. At the Milwaukee Area Technical College, this is a cabinet level position, the Director of Business and Industrial Relations. Three instructional divisions--business, general education and technical and industrial--have an associate dean whose full time responsibility is serving as a liaison between their division and the business and industrial community.

With a strategic focus on business and industry, an institutional audit should be undertaken to review strengths, weaknesses, opportunities and problems. The community college should design creative marketing strategies to reach these corporate clients and also develop incentive structures for motivating and rewarding faculty to teach courses for business and industry.

Cost effectiveness - Cost for institutional services should be reasonable and reflect a balance between cost recovery and service to the community. The relationship between a specific firm and the community college should be specified in a contractual agreement, the elements and guidelines of which should be detailed in a Contract for Services Procedures Manual. This provides a normative structure for pricing, delivery of services and specification of responsibilities. It does not enhance the college's credibility to have ad hoc rules, an erratic pricing mechanism and unclear lines of responsiblity.

Cooperation - A range of benefits accrue to both the community college and business and inJustrty from a cooperative relationship. Business and industry is provided access to the institution's educational resources while the community college gains from the addition of new markets. However, in addition to the services for cash model of interchange, there should be a sharper focus on shared physical and human resources. The exchange of consultants and the use of company facilities by the college as training laboratories for students and for faculty to update their knowledge of current industry trends and practices are good examples of alternative models.

The present period confronts the leadership of companies and colleges with a range of creative possibilities which can be exploited to the benefit of both their institutions.

CONCLUSION

Community colleges like other educational institutions are operating in an environment of resource scarcity and enrollment decline. These conditions create driving forces for the college to reach out and establish new markets. The accelerating rate of change in high technology and the rapid expansion of new occupations and skill categories has increased the demand in business and industry for education and training. The community college is ideally situated to meet these emerging needs because of its mission, its ability to develop new instructional methodologies and its readiness to adjust its programs in

responding to the needs of its corporate clients. How well the community college responds to the challenge of the training and upgrading of the wokforce may well determine the economic revitalization of specific localities and communities as well as America's effectiveness in competing in the world economy.

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